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LOGISTICS SHIPS OF THE GDR-NAVY NEW CLASS OF COMBAT  
SUPPLY SHIPS BEING AC. (U) NAVAL INTELLIGENCE SUPPORT  
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## TRANSLATION

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NEW CLASS OF COMBAT SUPPLY SHIPS  
BEING ACQUIRED

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IN ZULAUF

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## Logistics Ships of The GDR-Navy New Class of Combat Supply Ships Being Acquired

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Auxiliaries in the GDR-Navy are regarded as a part of the rear services. Their mission is - as can be noted in the book "Volksmarine auf Wacht" (People's Navy on Guard), which appeared in 1979 in the Militärverlag of the GDR - is "to provide support for the operations of the attack and security forces of the GDR at sea". In this regard the tugboats, tankers, supply ships, torpedo recovery craft, fire ships, salvage ships and repair ships are included in this category. They are differentiated from the attack and security forces by the fact that they fly the blue service flag for auxiliary ships. As a rule their crews consist of "civilian employees of the National Popular Forces" (NVA); these personnel are almost exclusively "prior service reservists with good military training".

Supply ships in the GDR-Navy occupy a special category and have a general term and not a special designation as in the Western navies. In this category of supply ships tankers and general cargo ships are included, regardless of the fact whether they perform their missions at sea or as stationary units at naval bases. The oldest of these units have a service age of more than twenty years and belong to a type ship which were built at the beginning of the 1960's on the basis of the design of the tankers of the LIST Class of the former WWII Germany Navy\*. These

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\* Originally it was imagined that these ships derived from captured or reconditioned ships of the former German Navy (WWII). This supposition was revealed rather late as being erroneous.

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ships are specifically three units of the so called AOL-600 Class, RIEMS, POEL and HIDDENSEE. These ships, which have a displacement of 1,000/1,045 tons, a length of 59.44 meters, have a beam of 9.42 meters and a draft of 4.50 meters. Their double-shaft motor propulsion system provides 1,030 kW (1,400 HP) and a maximum speed of 12 kn. The diesel fuel carried on board for the own use is 30 tons and provides a range of 1,100 sm at maximum speed. Each ship can carry a load of 650 tons of oil and supply it to other ships. Armament is carried only in the event of crisis and consists of two 37 mm AA twin-mount L/63; these are installed on board only occasionally for exercises and are otherwise stored in arsenals at naval bases. A TSR-333 radar is provided for navigation.

These ships are not capable of performing at-sea supply of other ships; they lack the necessary equipment for such operations. Instead of this they are used as support tankers, which supply other ships with oil at naval bases, in harbour, or close to the coast, whereby both ships stop and tie up alongside (more rarely bow to stern).

The tanker USEDOM performs the same role, a ship of the Soviet BASKUNCHAK Class, built 1964-66 in Kamysh-Burin near Kerch and transferred to the GDR-Navy in 1966. With dimensions of 83.6 x 12 x 4.6 meters fully loaded it displaces 2,940 tons. It derives from a series of civilian coastal motor tankers with are of 1,754 GRT and 539 NRT and have a capacity of 1,660 tons of oil. Propulsion is provided by a single shaft motor plant with a power of 1,635 kW (2,200 HP) for a speed of 13,2 kn. Its fuel supply of 134 tons provides a range of 5,000 sm at a speed of 12.6 kn. This ship is capable

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\* Numbers in right margin indicate pagination in the original text.

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capable of transporting simultaneously four different types of POL for a total capacity of 1,490 tons. Armament is not present, and to date no provisions have been noted for any provisional installation of armament, but such installation cannot be precluded. A DON-2 radar is provided for navigation.

All other supply ships are of the coastal motor ship type (Kümo), both in the tanker and the freighter configuration. These configurations are accommodated by NATO with the corresponding designations: KÜMP-MOD Class for the tanker version and KÜMO Class the freighter version, regardless of differentiations in size and appearance. Basically the freighter version can be identified on the basis of one or two cranes carried, whereas there are no cranes on the tanker version. The TIMMENDORF belongs to the tanker version, which was built as a bulk and general cargo carrier and was acquired by the GDR-Navy in 1963, where it still appears to be currently in service. According to GDR sources this ship has repeatedly been used for other purposes, for example, for recovering practice mines and as a floating maintenance base during exercises. As the only ship of its type the TIMMENDORF has two cranes, which are arranged in tandem configuration. Its technical data are: Displacement 763 tons, dimensions 47.95 x 8.40 x 2.70 meters, capacity 450 tons, single-shaft motor propulsion with 220 kW (300 HP) power for a speed of 9 kn.



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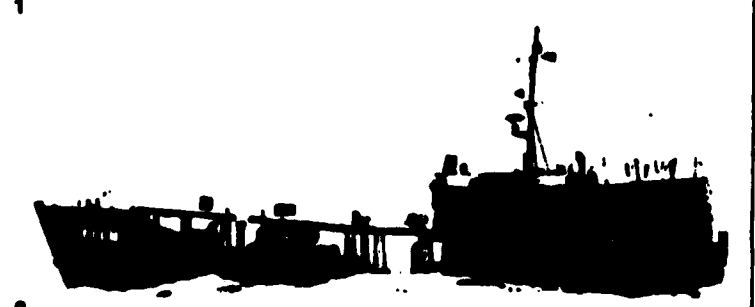


Fig. 1: Support tanker POEL, photographed in December 1982, here with armament installed apparently for exercises (one twin 37 mm L/63 AA on forecastle platform and one twin mount behind the stack).

Fig. 2: Apparently derived from a tanker lugger series: Support tanker VILM.

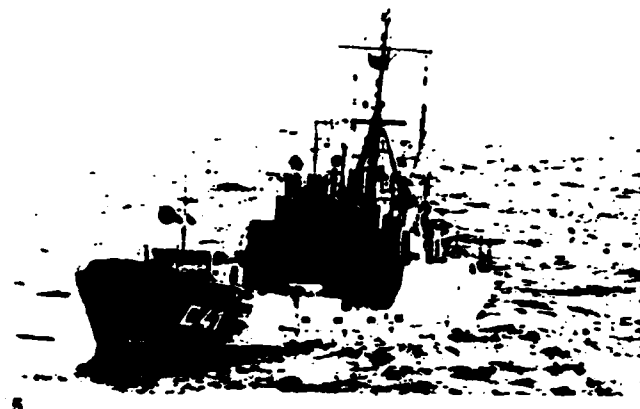


Fig. 3: Auxiliary E44, a former dry-cargo lighter. This ship is also carrying its defensive armament temporarily on board: a 14.5 mm AA on the stern.

Fig. 4: Support tanker USEDOM, a ship of the BASKUNCHAK class provided by the Soviet Union.

Fig. 5: The auxiliary C41 built as a tank lighter belongs to the KUMO-MOD Class.

Fig. 6: Combat supply ship NORDPERD of the FROSCH-II Class. The large degree of similarity with the FROSCH-I Class is apparent.

Two other similar ships, E 18 (ex-RUDEN?) and E44 (ex-FREUNDSCHAFT) are externally very similar to the TIMMENDORF, , but with displacement of 535 tons and dimensions of 39.9 x 7.5 x 2.5 meters are considerably smaller and with 7 kn maximum speed are even slower. Occasionally these units carry despite their very small size a defensive armament in the form of a twin 14.5 mm MG, which is located on the stern. These ships derive from a series of dry-cargo lighters built by the Ernst-Thälmann Werft in Brandenburg with 266 BRT and 351 ton carrying capacity.

The support tanker C41 (ex C21?) is very similar and of the same size characteristics, which was built by the same shipyard in 1956 as a tank lighter. Its displacement is 118 GRT and its carrying capacity is listed as 339 tons.

The VILM derived from the same period. It apparently derives from a series of tank luggers built by the Matthias-Thesen-Werft in Wismar, which are listed in the GDR technical literature as having a displacement of 593 tons and dimensions of 43.09 x 7.30 x 3.35 meters and a tank volume of over 300 m<sup>3</sup>.

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Both the VILM and the C 41 are used as harbor and anchorage tankers. The five oil barges of the GUSTAV KÖNIG type with the alpha-numerical identification numbers C17, C25, C76, C77 and C16 are definitely harbor tankers. This type which was developed for river navigation corresponds to the "Groß-Plauer Standard" and has a standard size of 67 meters length, beam 8.2 meters and draft 2 meters. These ships are not encountered at sea; these are distributed among the various naval bases and are used as stationary tankers.

With these resources the People's Navy (GDR-Navy) could to date satisfy its logistical requirements only inadequately, and this might well be the reason why that in the second half of the 1970's activity was generated to procure modern new constructions.

The FRISCH-II Class is the first of these new constructions, a series of two so called "combat supply ships" derived from the FROSCHE-I Class, which received the names BORDPERD (E35) and SÜDPERD (E36). These ships retained the bow landing ramps, so that they are "capable of supplying troops by means of handling equipment carried at suitable coastal areas" - as stated in a short report in Vol. 2/83 of the GDR-troop journal "Die Volksarmee". From this it can be noted that these two ships actually belong to the category of amphibious forces: they have characteristics of those ships, which are designated in the US Navy as LKA = Amphibious Cargo Ships, designated briefly in German as "attack freighters" (Angriffsfrachter). The development and construction of such ships had become necessary at that time, because it had been manifested repeatedly that it was impossible to unload a sufficient combat load for the troops immediately with the first landing wave. Therefore, amphibious cargo (attack) ships were required, which are capable of delivering such large amounts of supplies - primarily ammunition for tanks, field artillery and infantry weapons and fuel for tracked and wheeled vehicles - so that an attack from the beachhead is not prevented because of shortage of ammunition and fuel. Such operations can be performed by this FROSCHE-II Class, which with its maximum capacity of 650 tons of course cannot be compared to the large Amphibious Cargo Ships (LKA) of the US Navy, which have a considerably greater cargo capacity. In this regard the FROSCHE-II Class is rather a mini-edition of the LKA. However, in this context it should be noted that the FROSCHE-II is designed for operation in a specific restricted area in the North and not for world-wide employment, as is the case with the American ships. Although these ships appear to be assigned primarily an amphibious role, both of these ships would probably operate in peacetime as dry-cargo transports, perhaps as a kind of "floating warehouse", which would carry a rather large inventory of supply items for issue. Cargo hold capacity would be sufficiently available for such operation. The front section of the cargo hold is accessible both over the bow landing ramp and by an approximately 13 x 3.5 meter hatch. In the connected rear section of the cargo hold there is a ca. 6 meter wide incline ramp astern with four parallel tracks; these are used primarily by forklifts, with which the cargo is brought to the upper deck, from where they are transferred to the ship to be supplied with the 5-ton crane.

The ships of the FROSCHE-II Class have an operational displacement of 2,000 tons and are 98 meters long, 12.5 meters wide and have a draft of 2.8 meters. They are equipped with two Soviet M 40 D-motors with a power of together 3,700 kW (5,000 HP) power, which is applied to two shafts.

The maximum speed is 16 kn. The main armament is the same as in the FROSCHE-1 Class: two 57 mm ZIF-72 twin AA, one each at the end position of the superstructure deck. Instead of the 30 mm twin AA installed on the FROSCHE-1 landing ships they have only two twin 25 mm AA of the known model and these are located on the foreship. The absence of the MBRL-122-rocket launchers in them might evidence that they are not intended for combat operations. Both versions - FROSCHE-1 and FROSCHE-2 - have facilities installed which make possible their operation as minelayers. The electronics is restricted to a STRUT CURVE sea surveillance omnidirectional radar, a TSR-333 navigation radar and an IFF-system, consisting of a SQUARE HEAD interrogation antenna and a HIGH POLE-B reply antenna.

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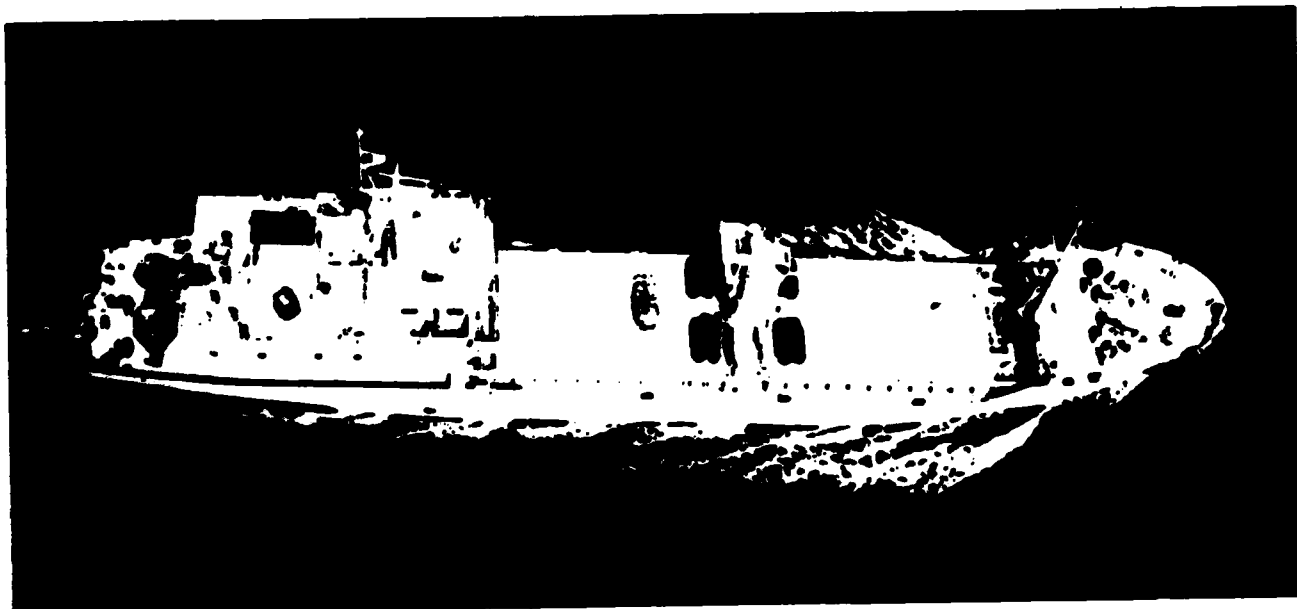


Fig. 7: High-seas combat supply ship DARSS photographed from aircraft. The large hatches can be noted.

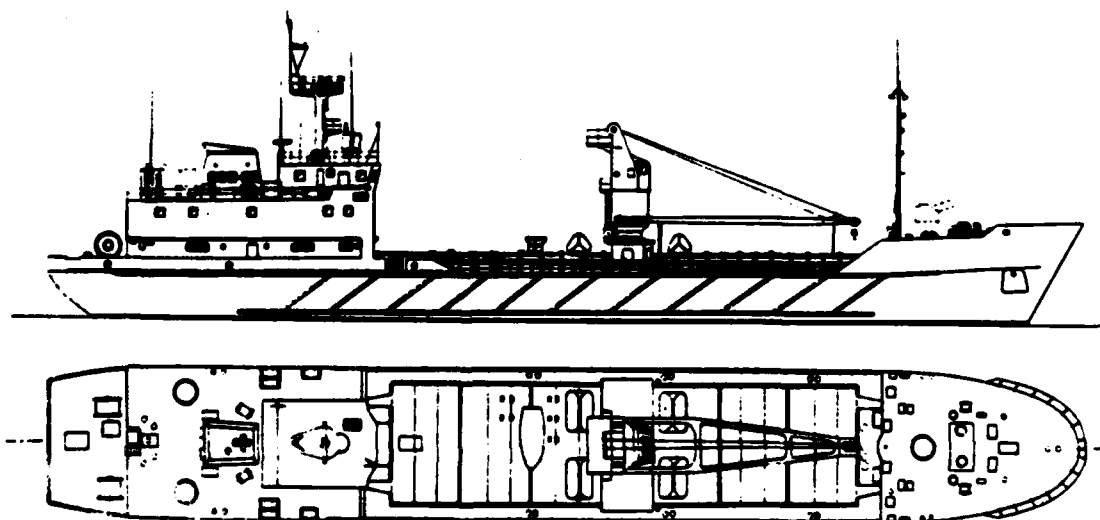


Fig. 8: Side and top view of the DARSS Class.



This year the procurement of a new type of ship began, which in the GDR-military journals is designated as a "high-seas combat supply ship". The differentiated nomenclature for the FROSCHE-II Class on the one hand and for the new class on the other hand appears to illustrate that the former (the "combat supply ship") can be assigned to the amphibious ship types, whereas in the latter ("high-seas combat supply ship") it is apparently a "genuine" supply ship.

The lead ship DARSS - again from GDR-press reports - was launched on 27. February 1982; this means that construction was begun in the summer or fall of 1981. This ship was built at the VEB Peenewerft Wolgast, which has existed since 1948, and which is used almost exclusively for GDR-naval construction, and is used only secondarily for the construction of a few special ships for the civilian sector - for example, large bucket-chain dredges for the Soviet Union.

The DARSS (alpha-numerical identification E41) manifests the lines of a modern cargo ship and is a forecastle ship with engines located abaft. In the center of the ship there are two cargo holds, which are apparently closed by hydraulically folding hatch covers. The hatch openings have dimensions of respectively 14 to 14 meters long and 8 meters wide. Between the two cargo hatches there is a fully rotating crane with a crane jib (arm) some 15 meters long installed. At maximum extension it can cover an approximately 10 meter wide sector on both sides of the ship. Its lifting capacity is estimated between 5 and 10 tons. Derrick posts with transfer stations for alongside loading are not provided. From this it could be concluded that the DARSS is not basically designed for underway replenishment maneuvers - the transfer of supplies and fuel in parallel from ship to ship underway. On the other hand, there are indications that it can perform its supply operations only when stopped and that the ships to be supplied have to go alongsides and make fast. One of these indications are the numerous diagonally running stiffening ribs on both sides of the hull, which is subjected to rather large stresses because of impacts and rubbing when other ships make fast alongsides. These ribs are intended to stiffen the outer hull additionally and thus increase its strength. Another indication can be noted in the presence of twelve large fenders; these are lashed in groups of three on the hatch covers ready for use. They are intended to hold off ships coming alongsides and thereby prevent damage to the ship. The supply operation - primarily with dry cargo - apparently is performed with alongside transfer with the crane, while the POL transfer is effected over the stern, which is suggested by the large rolls of hoses located there.

The DARSS has single-shaft motor propulsion; the propulsion power would be approximately 1,200 to 2,500 kW (1,600 to 2,000 HP) and the speed would be between 12 and 15 kn. The LOA of this ship, which displaces ca. 1,200 tons, is 68.5 meters, the beam 10 meters and the draft is 3.5 meters by estimation. By design analysis the length at waterline would be 62 meters; if a consistent width (10 meters) is assumed, then the L/B ratio would be 6.2, a figure which in ships of this category is within these parameters.

The loading capacity is estimated at approximately 250 tons dry cargo and approximately 200 tons POL-products\*. The DARSS carried

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\* POL = Petrol, Oil and Lubricants.

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armament - and this can be only for self-defense - only during its sea trials. It consisted of three Standard 25 mm L/70 AA twin mounts; one of them was on the forecastle, the two others on both sides of the stack.



Fig. 9 and 10: The upper photo shows a stern-bow POL transfer: the guided missile frigate ROSTOCK (Soviet KONI Class) has approached the stopped supply ship very close to take fuel aboard. Below, a view of the DARSS from an astern perspective. The stiffening ribs of the hull can be clearly noted here inter al.

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In the interim the weapons have been removed and only their mounting rings in the deck can still be noted. The electronics includes a navigation radar, which probably can be assigned to the TSR series.

It can be definitely assumed that other ships are being built or will be built. In this regard it could be imagined that there will also be a version which will carry more POL-products and less dry cargo. Initially, the DARSS version appears to be being built, because in July a second new construction appeared in the Baltic: the WITTOW, alpha-numerical identification: E 61.

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